

1/7

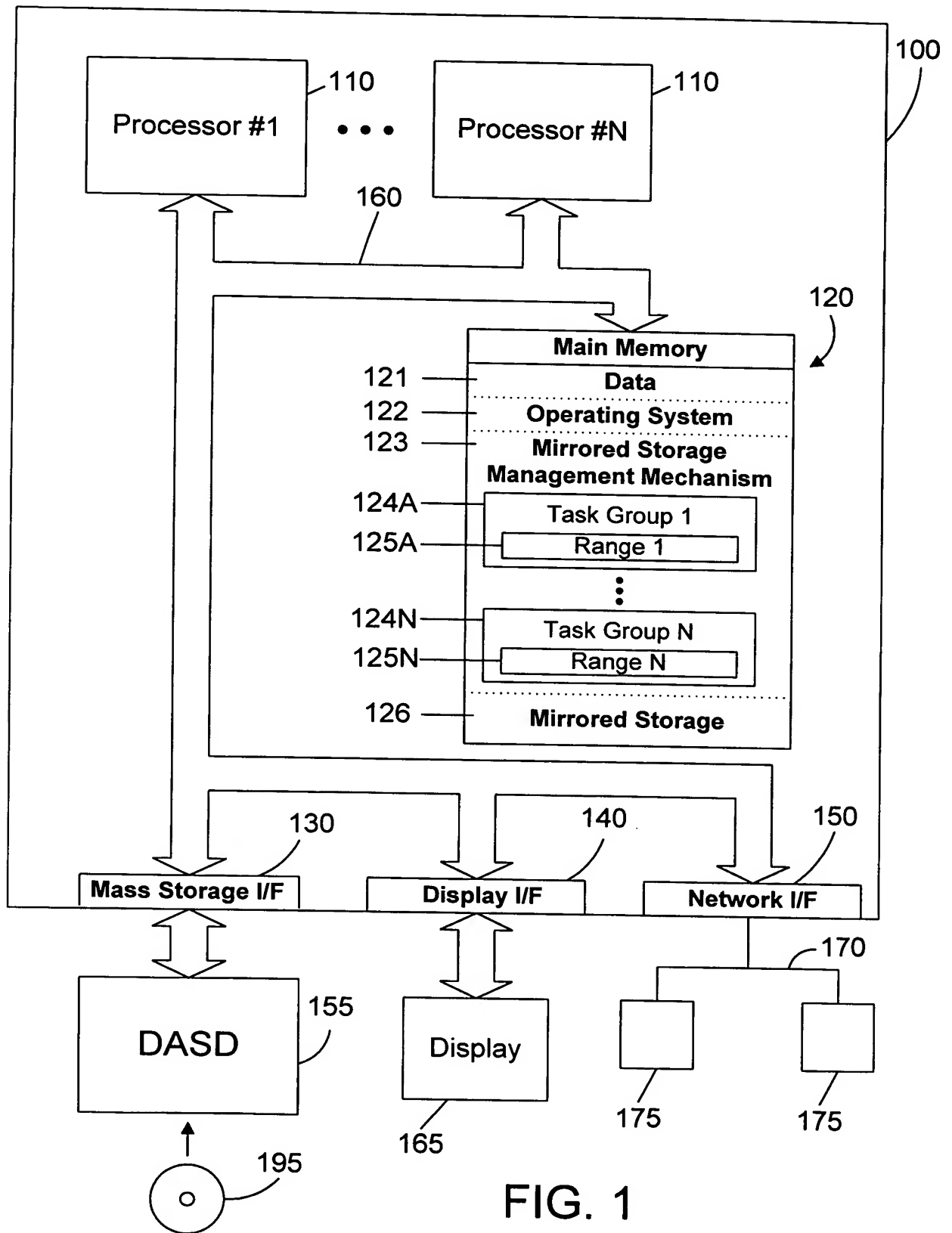


FIG. 1

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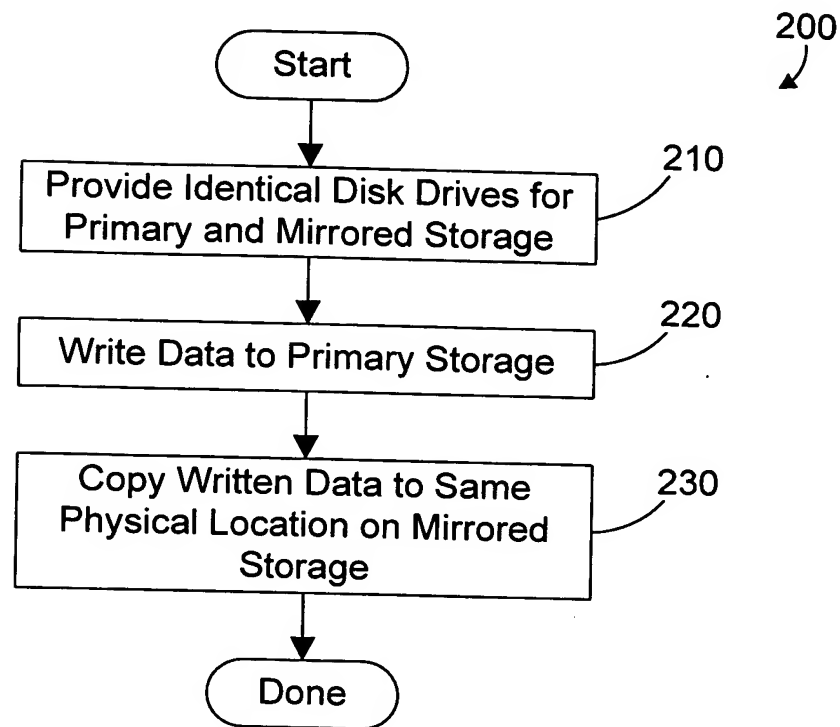


FIG. 2 Prior Art

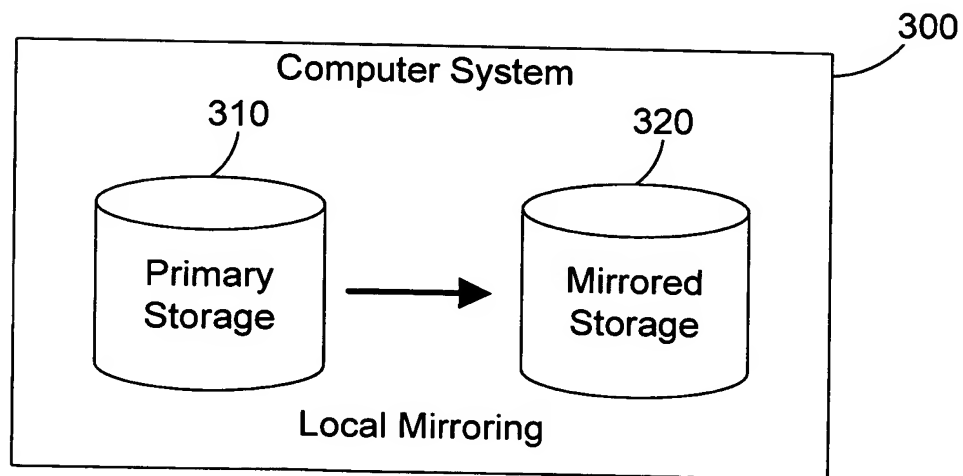


FIG. 3 Prior Art

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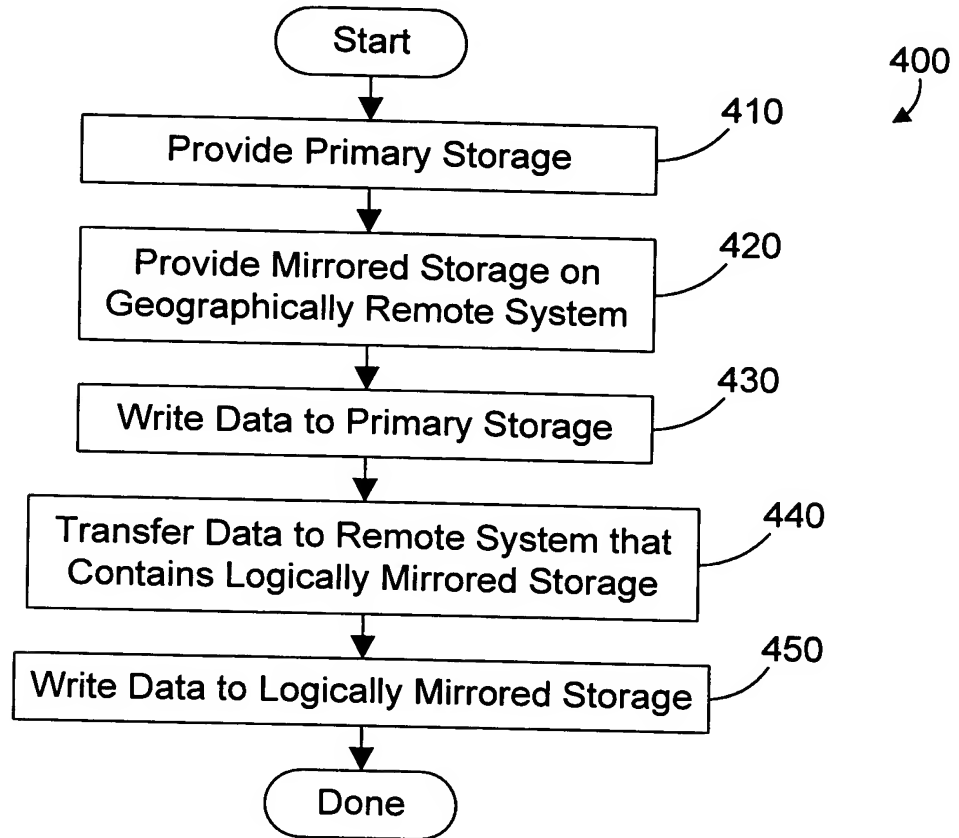


FIG. 4 Prior Art

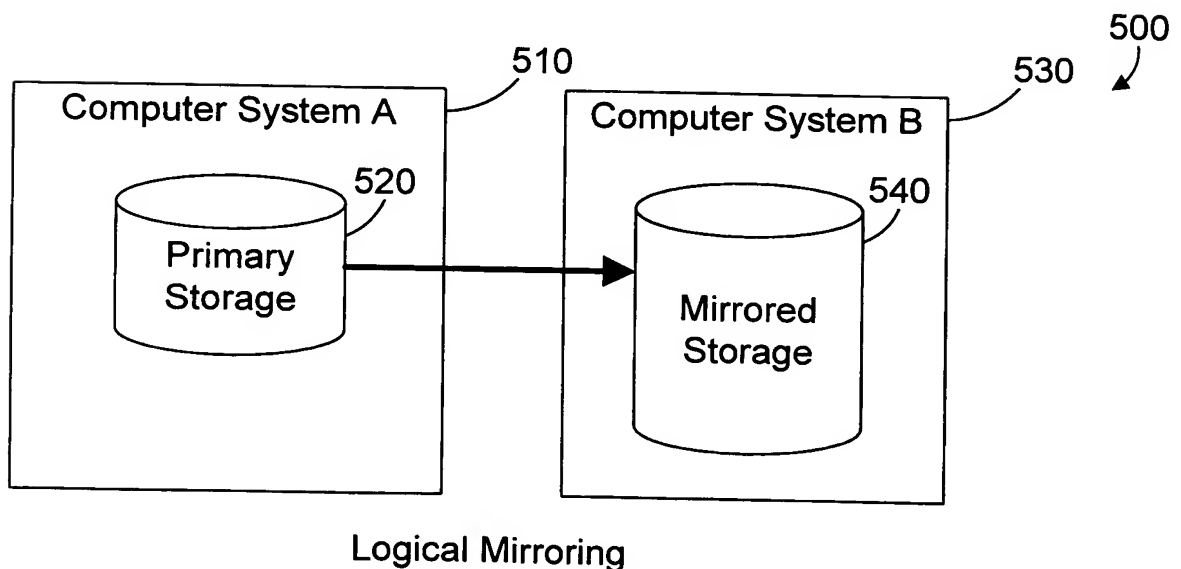


FIG. 5 Prior Art

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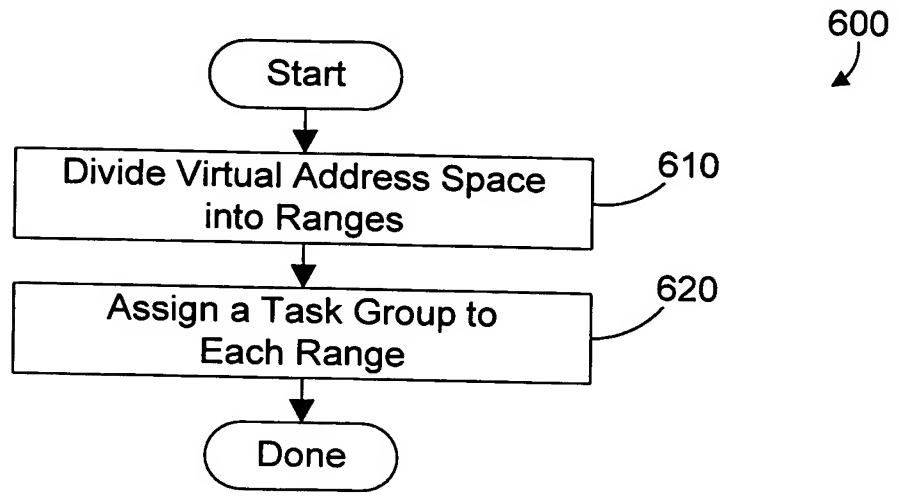


FIG. 6

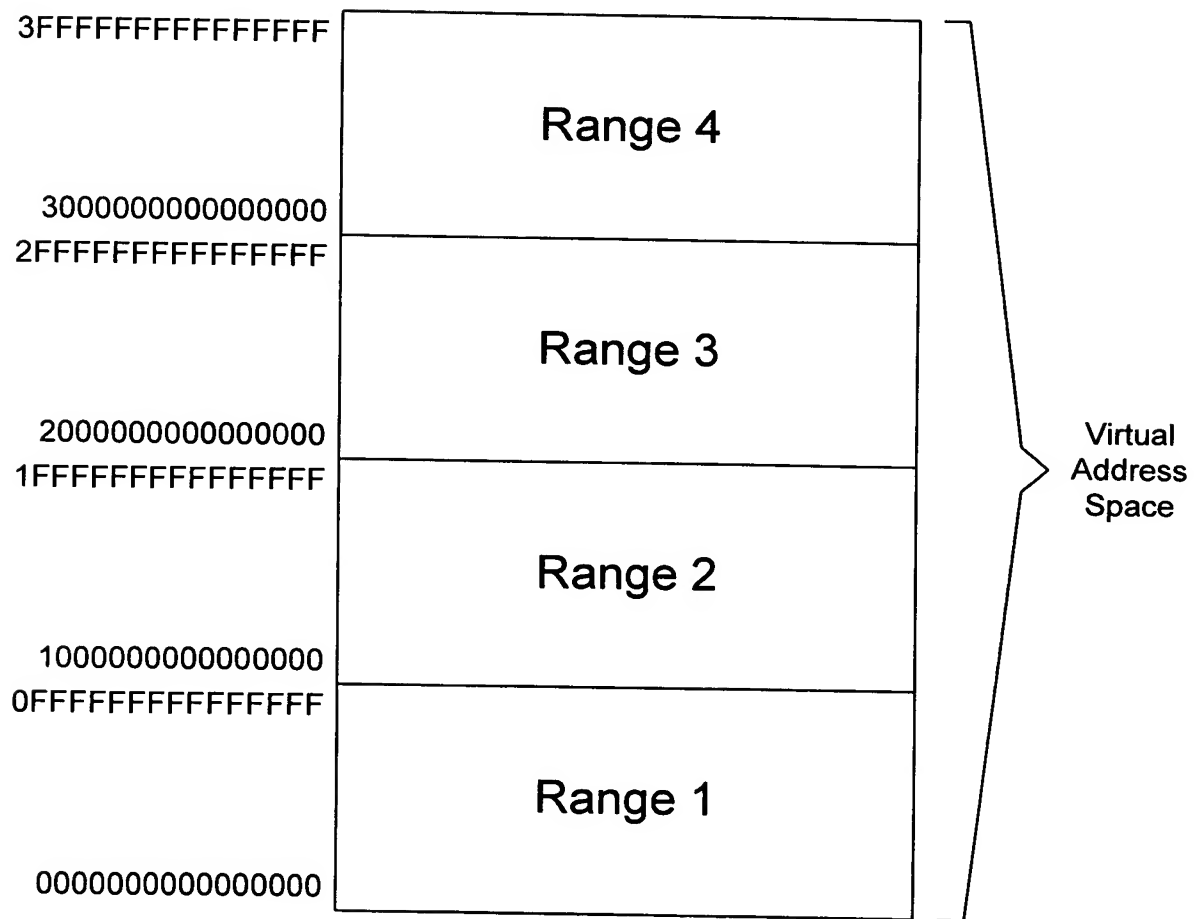


FIG. 7

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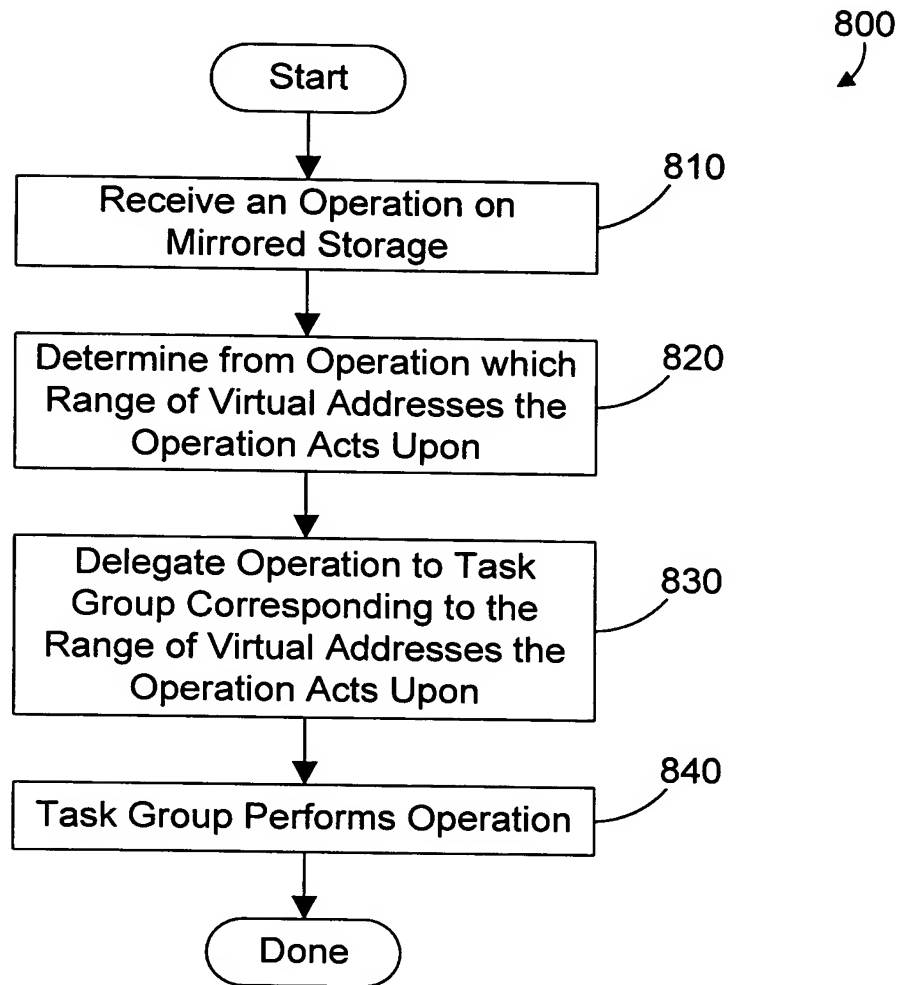


FIG. 8

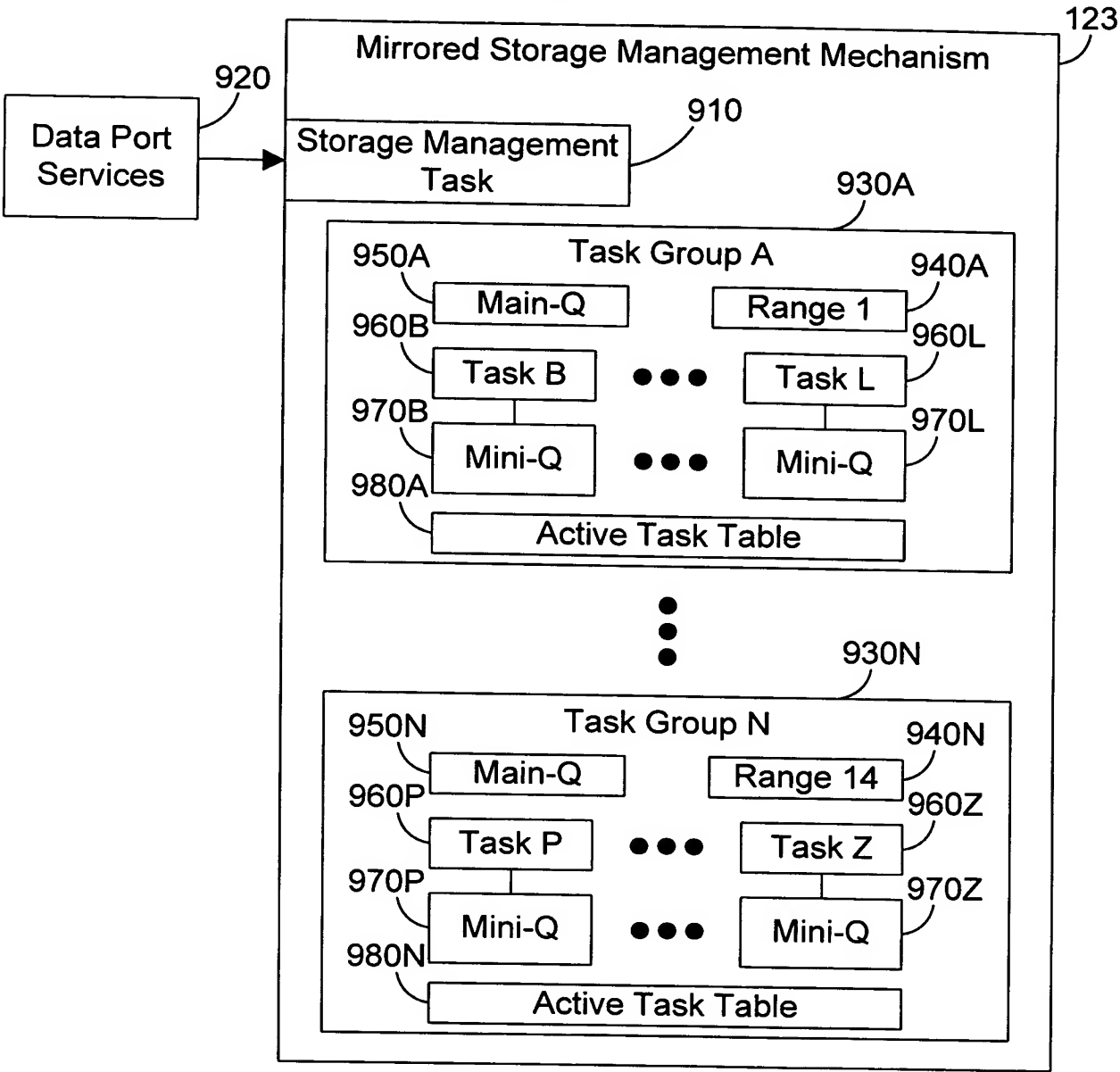


FIG. 9

980

Active Task Table		
Task B	Range F	Counter Pointer G
Task D	Range H	Counter Pointer K
Task P	Range J	Counter Pointer M
Task R	Range T	Counter Pointer Q

982 984 986

FIG. 10

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1100

Dequeue from the mini-Q	1102	
If mini-Q has entry	1104	
process entry	1106	
go back to top	1108	
Else	1110	
get table lock	1112	
dequeue from mini-Q again	1114	
If mini-Q has entry	1116	
drop the table lock	1118	
process the mini-Q entry	1120	
go back to top	1122	
Else	1124	
If pointer to counter is set	1126	
send to counter	1128	
NULL pointer to counter	1130	
Take entry for this task out of the table (if not previously done)	1132	
Drop the table lock	1134	
Get the main-Q lock	1136	
(A) Receive message from main-Q	1138	
Get the table lock	1140	
Look in the table	1142	
If there is a matching range in the table	1144	
If it only matches/overlaps 1 range in the table	1146	
Update table with expanded range, if necessary	1148	
Send the message to the mini-Q of the task handling that range	1150	
Drop the table lock	1152	
Go back to (A)	1154	
Else (it matches more than 1 range)	1160	
Update table for tasks being waited on to have pointer to this task's counter	1162	
Clear ranges for those other tasks in the table	1164	
Set range for this task to cover start and end of all other ranges plus this new one	1166	
Set counter up with counts of tasks being waited on	1168	
Drop the table lock	1170	
Drop the main-Q lock	1172	
Wait on the counter	1174	
Else	1176	
Take range for himself (update the table)	1178	
Drop table lock	1180	
Drop the main-Q lock	1182	
Process the new message	1184	
Go back to the top	1186	

FIG. 11